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09/966,912	09/28/2001	Michael J. Weiland	7628	5708

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EXAMINER

GAGLIARDI, ALBERT J

ART UNIT

PAPER NUMBER

2878

DATE MAILED: 03/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/966,912

Applicant(s)

WEILAND ET AL.

Examiner

Albert J. Gagliardi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 21 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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## DETAILED ACTION

### *Comment on Submissions*

1. The response filed 21 January 2003 has been entered.

### *Specification*

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saniford *et al.* (US 3,851,171) in view of Azok (US 5,352,277).

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Regarding claim 1, *Saniford* discloses a method of tracing the flow of water through pipelines and sewer networks including at least the steps of surveying (studying) an area to determine water flow (col. 1, lines 5-7); selecting test locations to withdraw a sample (col. 3, lines 35-37); and running water continuously through a selected point that drains to the test location (col. 3, lines 20-21); selecting a target (injection) point and adding an amount of non-toxic fluorescent tracer to the target point wherein the amount of tracer added is such that the fluorescent signal of the tracer is detectable over the background fluorescence of the water flowing in the selected point (col. 3, lines 1-20); using a fluorometer (well known and otherwise obvious device for measuring fluorescence) to detect the fluorescent signal of the fluorescent tracer in the sample withdrawn at the test location (col. 3, lines 35-63); using the signal to determine if the water is flowing to the test location (col. 3, lines 63-64); recording the information (inherent or obvious step); and repeating the steps as necessary so as to complete the process.

Although *Saniford* does not specifically identify steps of surveying a building to locate all existing drains; numbering the drains; creating a Master Blueprint and Master Spreadsheet showing all of the drains; and using the blueprint or spreadsheet to determine the locations of sanitary and storm drains, those skilled in the art appreciate when studying water flows it is typical to perform surveys and record relevant information about the water flow study site and related items. Additionally, those skilled in the art also appreciate that items such as drains and manholes are well known items associated with pipeline and sewer networks. Those skilled in the art also appreciate that it is common in the art, for example as part of a construction project, as part of the establishment of routine maintenance and repair programs, or to effect compliance

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with local and federal laws, to study water flows relating to important water flow systems such as storm and sanitary drainage systems. As such, it would have been obvious to a person of ordinary skill in the art to modify the method of studying water flows of pipeline and sewer networks as suggested by *Saniford* so as to include such steps as surveying a building; numbering the drains; creating a Master Blueprint and Master Plan; and recording the particular information so as to allow for a method that provides useful information about important water flows associated with pipeline and sewer networks as normally utilized according to typical construction and maintenance practices and/or required for compliance with local and federal laws relating to storm and sanitary systems.

Regarding using a tracer to determine whether water actually flows from the desired point (such as a drain in a building) to a test location (such as a manhole), those skilled in the art appreciate that it is well known to use a tracer such as a visible dye or thermal (hot water) slug to trace the flow of water from such locations as drains in building to locations such as manholes so as to determine the flow between such locations (see for example *Azok* at col. 1, lines 6-35). Those skilled in the art also appreciate that it is well known and considered good engineering practice to perform preliminary tests and surveys prior to performance of more complex studies so as to insure the accuracy of initial data and verify the expected boundaries of the water flow study. As such, it would have been obvious to a person of ordinary skill in the art to further modify the method suggested by *Saniford* so as to further include a step of performing a preliminary survey to verify data and establish study boundaries wherein the preliminary survey is performed by the well known, and relatively simple and inexpensive method of using a tracer to determine whether water actually flows from the desired measuring points (such as a drain in a

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building) to a test location (such as a manhole) so as to verify initial data in a simple and reliable manner and avoid errors and wasted time due to reliance on unverified and potentially unreliable initial data.

Regarding claim 2, although not specifically disclosed by *Saniford*, it is well known to effect repairs of a system based on the results of a study and would have been an obvious design choice within the skill of a person of ordinary skill in the art so as to allow for a system that operates properly.

Regarding claim 3, although not specifically disclosed by *Saniford*, it is well known to perform retests of repaired systems in order to verify the adequacy of the repairs.

Regarding claim 4, the method suggested by *Saniford* as modified in view of *Azok* (see explanation regarding claim 1 above) suggests a method including the steps of surveying a building to locate all existing drains; numbering the drains; creating a Master Blueprint and Master Spreadsheet showing all of the drains; using a tracer to determine whether storm water from the building actually flows from each storm drain to a storm water manhole and recording information about the flow pattern of each drain tested on the Master Blueprint and the Master Spreadsheet; selecting test locations to withdraw a sample of water wherein the test location is selected from the group of all storm manholes and sanitary manholes; running water continuously through a drain that drains to the test location manhole; selecting a target sanitary drain and adding an amount of non-toxic fluorescent tracer to the target drain wherein the amount of tracer added is such that the concentration of about 600 ppm (obvious or inherent aspect of an amount of about 20 to 500 ppm up to the limit of solubility) (col. 3, lines 6-12); using a fluorometer to detect the fluorescent signal of the fluorescent tracer in the sample

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withdrawn at the test location; using the signal to determine if the drain is draining to the test location and recording the information about the flow pattern on the Master Blueprint and Master Spreadsheet; repeating the steps as necessary such that all drains are traced and using the information from the Master blueprint and Master Spreadsheet to determine where all the sanitary drains and storm drains are draining.

Regarding claim 5, the method suggested by *Saniford* as modified in view of *Azok* (see explanation regarding claim 2 above) suggests a method including the step of effecting repairs to the building such that the drains tested are configured such that they drain to their intended location.

Regarding claim 6, the method suggested by *Saniford* as modified in view of *Azok* (see explanation regarding claim 3 above) suggests a method including the step retesting the drains to ensure that all drains are draining to their intended location.

Regarding claim 7, the method suggested by *Saniford* as modified in view of *Azok* (see explanation regarding claim 1 above) suggests a method including the steps of surveying a building to locate all existing drains of interest; numbering the drains; creating a Master Blueprint and Master Spreadsheet showing all of the drains; using a tracer to determine whether storm water from the building actually flows from each storm drain to a storm water manhole and recording information about the flow pattern of each drain tested on the Master Blueprint and the Master Spreadsheet; selecting test locations to withdraw a sample of water wherein the test location is selected from the group of all storm manholes and sanitary manholes; running water continuously through a drain that drains to the test location manhole; selecting a target sanitary drain and adding an amount of non-toxic fluorescent tracer to the target drain wherein

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the amount of tracer added wherein the amount of tracer added is such that the fluorescent signal of the tracer is detectable over the background fluorescence of the water in the target drain; using a fluorometer to detect the fluorescent signal of the fluorescent tracer in the sample withdrawn at the test location; using the signal to determine if the drain is draining to the test location and recording the information about the flow pattern on the Master Blueprint and Master Spreadsheet; repeating the steps as necessary such that all drains of interest are traced; and using the information from the Master blueprint and Master Spreadsheet to determine where all the sanitary drains and storm drains of interest are draining.

Regarding claim 8, the method suggested by *Saniford* as modified in view of *Azok* (see explanation regarding claim 2 above) suggests a method including the step of effecting repairs to the building such that the drains tested are configured such that they drain to their intended location.

Regarding claim 9, the method suggested by *Saniford* as modified in view of *Azok* (see explanation regarding claim 3 above) suggests a method including the step retesting the drains to ensure that all drains are draining to their intended location.

Regarding claim 10, the method suggested by *Saniford* as modified in view of *Azok* (see explanation regarding claim 1 above) suggests a method including the steps of surveying a building to locate all existing drains; numbering the drains; creating a Master Blueprint and Master Spreadsheet showing all of the drains; using a tracer to determine whether storm water from the building actually flows from each storm drain to a storm water manhole and recording information about the flow pattern of each drain tested on the Master Blueprint and the Master Spreadsheet; selecting test locations to withdraw a sample of water wherein the test location is



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selected from the group of all storm manholes and sanitary manholes; running water continuously through a drain that drains to the test location manhole; selecting a target sanitary drain and adding an amount of non-toxic fluorescent tracer to the target drain wherein the amount of tracer added is such that the concentration of about 600 ppm (obvious or inherent aspect of an amount of about 20 to 500 ppm up to the limit of solubility) (col. 3, lines 6-12); using a fluorometer to detect the fluorescent signal of the fluorescent tracer in the sample withdrawn at the test location; using the signal to determine if the drain is draining to the test location and recording the information about the flow pattern on the Master Blueprint and Master Spreadsheet; repeating the steps as necessary such that all drains are traced and using the information from the Master blueprint and Master Spreadsheet to determine where all the sanitary drains and storm drains are draining.

Regarding claim 11, the method suggested by *Saniford* as modified in view of *Azok* (see explanation regarding claim 2 above) suggests a method including the step of effecting repairs to the building such that the drains tested are configured such that they drain to their intended location.

Regarding claim 12, the method suggested by *Saniford* as modified in view of *Azok* (see explanation regarding claim 3 above) suggests a method including the step retesting the drains to ensure that all drains are draining to their intended location.

Regarding claim 13-16, in the methods suggested by *Saniford* and *Azok*, the first tracer is a visible dye tracer (*Azok*, col. 1, lines 5-35). Regarding the particular fluorescent tracer compound, fluorescent compounds such as 1,3, 6, 8 pyrenetetrasulfonic compounds are well known for use as fluorescent tracers, and, absent some degree of criticality, the use of such

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compound would have been a matter of routine design choice within the skill of a person of ordinary skill in the art depending on the needs of the particular application and in view of the known functional equivalence of such compounds as fluorescent tracers.

Regarding claims 17-20, the choice of a particular or optimum drain through which to run water would have been a matter of routine design choice within the skill of a person of ordinary skill in the art depending on the needs of the particular application and constraints of the particular water flow study location.

### ***Response to Arguments***

6. Applicant's arguments filed 21 January 2003 have been fully considered but they are not persuasive.

Regarding applicant's argument that *Saniford* does not disclose using a "fluorescent" tracer because the tracer disclosed by *Saniford* is a "luminescent" tracer. The examiner notes that while the term "luminescent" is a generic term that encompasses both fluorescent (prompt light emission) and phosphorescent (delayed light emission), the actual luminescent tracer disclosed by *Saniford* (PBTS) is, in fact, a "fluorescent" tracer since the light emission is prompt emission. The examiner further notes that the type of light emitted by the fluorescent tracer (i.e., visible or non-visible is not an aspect of the claims.

Regarding applicant's argument that *Saniford* and *Azok* are nonanalogous art because they are classified differently, the examiner notes that it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed.

Cir. 1992). In this case, both *Saniford* and *Azok* are related to the tracing water flow which is in the same field as applicant's endeavor.

Applicant's remaining arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

All of applicant's arguments having been addressed, the rejection is maintained.

**Conclusion**

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Albert J. Gagliardi whose telephone number is (703) 305-0417. The examiner can normally be reached on Monday thru Friday from 9 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Porta can be reached on (703) 308-4852. The fax phone numbers for the

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organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Albert J. Gagliardi  
Patent Examiner  
Art Unit 2878

AJG  
March 22, 2003